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Amended Claims

WHAT IS CLAIMED IS:

1. (Previously Amended) A valve cover assembly comprising a valve cover having a mating surface adapted to be attached to a cylinder head of an internal combustion engine having a continuous bead of an adhesive disposed on the perimeter of the mating surface of the valve cover wherein the adhesive has sufficient adhesive strength to hold the valve cover in place during normal operating conditions.

2. (Previously Amended) A valve cover assembly according to Claim 26 wherein the valve cover does not have bolt holes which have a primary function of holding the valve cover to the cylinder head.

3. (Previously Amended) A valve cover assembly according to Claim 26 wherein the adhesive is a cure-on-demand adhesive.

4. (Previously Amended) A valve cover assembly according to Claim 26 wherein the valve cover is fabricated from a plastic material.

5. (Original) A valve cover assembly according to Claim 4 wherein the valve cover further comprises one or more integral means for holding the valve cover in place on a cylinder head while the adhesive cures.

6. (Original) A valve cover assembly according to Claim 4 wherein the valve cover comprises a blend of nylon 6,6, nylon 6 or a mixture thereof with syndiotactic polystyrene.

7. (Original) A valve cover according to Claim 4 wherein the valve cover further comprises one or more access ports adapted to allow access to the cylinder head without removal of the valve cover and one or more means for covering and sealing the one or more access ports.

Claims 8 to 10 were previously cancelled.

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11. (Currently Amended) An engine assembly comprising one or more valve covers having mating surfaces and one or more cylinder heads having mating surfaces adapted to fit to the mating surfaces of the valve covers wherein each valve cover is adhesively bonded to a cylinder head wherein a continuous layer of adhesive is disposed
5 between the mating surfaces of each valve cover and the cylinder head to which each valve cover is bonded, wherein the continuous layer of adhesive forms a seal between the mating surface of each valve cover and cylinder head pair such that the transmission of gasses and liquids between each valve cover and cylinder head pair where the mating surfaces are in contact is significantly reduced or prevented and the adhesive has sufficient cohesive
10 strength to hold the valve cover in place during normal operating conditions.

12. (Previously Amended) An engine assembly according to Claim 28 wherein the valve cover is fabricated from a plastic material.

13. (Original) An engine assembly according to Claim 12 wherein the valve cover further comprises one or more integral means for holding the valve cover in place on a
15 cylinder head while the adhesive cures.

14. (Original) An engine assembly according to Claim 12 wherein the valve cover further comprises one or more access ports adapted to allow servicing the cylinder head without removal of the valve cover and one or more means for covering and sealing the one or more access ports.

20 Claims 15-17 were previously cancelled.

18. (Previously Amended) A method for bonding a valve cover to a cylinder head comprising

a) applying to the valve cover or the cylinder head, wherein the valve cover has a mating surface adapted to be mated with a mating surface of a cylinder head, a
25 continuous bead or film of adhesive along the entire mating surface of the valve cover or the cylinder head wherein the adhesive has sufficient cohesive strength to hold the valve cover in place during normal operating conditions;

b) contacting the mating surface of the valve cover with the mating surface of the cylinder head such the continuous bead or film of adhesive is disposed

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between the mating surfaces of the valve cover and the cylinder head;

c) curing the adhesive to form a permanent bond between the mating surfaces of the valve cover and the cylinder head wherein the adhesive forms a seal between the valve cover and the cylinder head.

5 19. (Previously Amended) A method according to Claim 30 wherein the adhesive is a cure-on-demand adhesive and the adhesive bead is contacted with the valve cover mating surface in a location remote from the location wherein the valve cover is contacted with the cylinder head.

10 20. (Original) A method according to Claim 19 wherein the adhesive is activated just prior to contacting the valve cover with the cylinder head.

21. (Previously Amended) A method according to Claim 20 wherein the adhesive is activated by exposure to a heat source just prior to contacting the valve cover with the cylinder head.

15 22. (Original) The method of Claim 21 wherein the valve cover mating surface and the cylinder head mating surface are maintained in contact, with the adhesive bead or film disposed between them, through the use of a mechanical fastening means other than bolts.

23. (Original) The method of Claim 22 wherein the mechanical fastening means is integrally attached to valve cover and/or the cylinder head.

20 Claims 24-25 were previously cancelled.

26. (Currently Amended) The valve cover assembly according to Claim 1 wherein the adhesive demonstrates a cohesive strength of 250 psi or greater when measured in lap shear mode according to ASTM D3165-91 ~~or in tensile mode according to ASTM D638 type 4.~~

25 27. (Currently Amended) The valve cover according to Claim 26 wherein the adhesive comprises a high temperature epoxy resin, a polyimide, a hybrid

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polyimide/epoxy resin adhesive, a silicone, a fluorosilicone, an alkyl borane initiated acrylic adhesive system or an epoxy novolac/nitrile rubber adhesive.

28. (Currently Amended) The engine cover assembly according to Claim 11 wherein the adhesive demonstrates a cohesive strength of 250 psi or greater when measured in lap shear mode according to ASTM D3165-91 ~~or in tensile mode according to ASTM D638 type 4.~~

29. (Previously Added) The engine cover according to Claim 28 wherein the adhesive comprises a high temperature epoxy resin, a polyimide, a hybrid polyimide/epoxy resin adhesive, a silicone, a fluorosilicone, an alkyl borane initiated acrylic adhesive system or an epoxy novolac/nitrile rubber adhesive.

30. (Currently Amended) The process according to Claim 18 wherein the adhesive demonstrates a cohesive strength of 250 psi or greater when measured in lap shear mode according to ASTM D3165-91 ~~or in tensile mode according to ASTM D638 type 4.~~

31. (Currently Amended) The process according to Claim 30 wherein the adhesive comprises a high temperature ~~epoxy~~epoxy resin, a polyimide, a hybrid polyimide/epoxy resin adhesive, a silicone, a fluorosilicone, an alkyl borane initiated acrylic adhesive system or an epoxy novolac/nitrile rubber adhesive.

32. (Previously Added) The engine assembly of Claim 28 wherein the valve cover and engine head do not have bolts and bolt holes to hold the valve cover in place.